

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning on page 5, line 9 with the following amended paragraph:

Figure 6 shows one embodiment of an apparatus for executing a lighting sequence in accordance with another embodiment of the invention; and

Please replace the paragraph beginning on page 5, line 11 with the following amended paragraph:

Figure 7 shows a block diagram of an alternate embodiment of the present invention directed to an apparatus for executing a lighting sequence~~[.]~~; and

Please add the following paragraph after the paragraph beginning at page 5, line 11:

Figure 8 illustrates a method for coupling a computer readable medium to a playback device and transferring a lighting program to the computer readable medium.

Please replace the paragraph beginning on page 14, line 14 with the following amended paragraph:

The methods described above can be readily adapted for controlling devices 804 other than lighting units. For example, in a theatrical setting, fog machines, sound effects, wind machines, curtains, bubble machines, projectors, stage practicals, stage elevators, pyrotechnical devices, backdrops, and any other features capable of being controlled by a computer may be controlled by a sequence as described herein. In this way, multiple events can be automated and timed. For example, the user may program the lights to begin to brighten as the curtain goes up, followed by the sound of a gunshot as the fog rolls over the stage. In a home, for example, a program (e.g., 20) can be used to turn on lights and sound an alarm at 7:00 and turn on a coffee maker fifteen minutes later. Holiday lighting arrays, e.g., on trees or houses, can be synchronized with the motion of

mechanical figurines or musical recordings. An exhibit or amusement ride can coordinate precipitation, wind, sound, and lights in a simulated thunderstorm. A greenhouse, livestock barn, or other setting for growing living entities can synchronize ambient lighting with automated feeding and watering devices. Any combination of electromechanical devices can be timed and/or coordinated by the systems and methods described herein. Such devices may be represented on an interface for creating the sequence as additional lines on a grid, e.g., one line for each separate component being controlled, or by any other suitable means. Effects of these other devices can also be visually represented to the user. For instance, continued use of a smoke machine could slowly haze out other grids, a coffee maker could be represented by a small representation of a coffee maker that appears to brew coffee on the interface as the action occurs at the device or the interface can show a bar slowing changing color as feed is dispensed in a livestock barn. Other types of static or dynamic effects are also possible.

Please replace the paragraph beginning on page 17, line 21 with the following amended paragraph:

In view of the foregoing, one embodiment of the present invention is directed to a system in which lighting programs are authored on one device as described above, and then transferred to a different device which plays back the lighting program and controls a lighting display. In accordance with one illustrative embodiment of the invention, the separate playback device can be a general purpose computer, with software loaded thereon to enable it to playback the lighting program. The transfer of the lighting program from the device on which it is authored to the device on which it is played back can be accomplished in any of numerous ways, such as by connection over a communication medium (e.g., via email over the Internet), or by loading the lighting program onto a portable computer readable medium (e.g., a disk, flash memory or CD) and physically transporting the medium between the two devices. Fig. 8 shows one exemplary method for transferring the lighting program.

Please replace the paragraph beginning on page 20, line 18 with the following amended paragraph:

As mentioned above, in one embodiment of the present invention, a lighting program 806a (Fig. 7) may be transformed and stored on a storage medium (e.g., storage device 620) in a format which represents the final data stream suitable for directly controlling lighting units or other devices. It should be appreciated that during the execution of a lighting program, the lighting units 40 will go through a number of different states, in that the changing of an effect, or parameter therefore, for any of the lighting units will result in a different state for the lighting units taken as a whole. When a lighting program is authored, a playback rate can be established, and the program can be stored in the storage medium with a frame corresponding to each update period established by the playback rate. A frame has sufficient information to establish a full state of the lighting units 40 controlled by the program. Thus, in accordance with one embodiment of the present invention, the storage medium stores the lighting program in a format so that there is a frame 802a-n corresponding to each of the states of the lighting units. This is to be contrasted with other types of lighting unit playback devices, which do not store such complete frames, but rather, store information that enables the playback device to interpolate and thereby generate the frames necessary to place the lighting units in each of the plurality of states to be achieved. The embodiment of the present invention that stores a specific frame for each of the plurality of states is advantageous, in that it provides more flexibility in programming the lighting program. However, it should be appreciated that other embodiments of the present invention are not limited in this respect, and they can transfer data to and store it within the storage medium in different formats.

Please replace the paragraph beginning on page 23, line 28 with the following amended paragraph:

In certain embodiments, the playback device 31 may respond to external signals in ways that are not determined by the contents and instructions of the lighting sequence 20. For example, the external interface 650 may include a dial, slider, or other feature by which a user may alter cause a

signal 808 to be transmitted that alters the rate of progression of the lighting sequence 20, e.g., by changing the speed of the local time counter 660, or by altering the interpretation of this counter by the playback device 31. Similarly, the external interface 650 may include a feature by which a user may adjust cause a signal 810 to be transmitted that adjusts the intensity, color, or other characteristic of the output. In certain embodiments, a lighting sequence 20 may include instructions to receive a parameter for an effect from a feature or other user interface on the external interface 650, permitting user control over only specific effects during playback, rather than over all of the effects output to the system of lighting units as a whole.

Please replace the paragraph beginning on page 27, line 22 with the following amended paragraph:

In one embodiment of the playback device 1000, the storage device 620 stores multiple lighting programs (e.g., lighting programs 806a and 806b), in much the same manner as discussed above in connection with some embodiments of the playback device 31 in Fig. 6. In accordance with this embodiment, a first external interface 1002 is provided to receive an externally generated signal to select which lighting program stored within the storage device 620 is to be played back by the playback device 1000. The first external interface 1002 is compatible with any of numerous types of user interfaces to enable selection of a particular lighting program to be played back. For example, in accordance with one illustrative embodiment of the present invention, a push button, toggle switch or other type of device can be used that when activated by the user, causes the processor 651 to select a next lighting program for playback, so that by repeatedly toggling the input device, a user can step through all of the lighting programs stored in the storage device 620 to select a desired program for execution.